

Laboratory Report Number: L13101868

Mark Lyon
Environmental Waste Solutions
2440 Louisiana Blvd
Albuquerque, NM 87110

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
Stephanie Mossburg – Team Chemist/Data Specialist
(740) 373-4071
Stephanie.Mossburg@microbac.com

I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.

This report was certified on November 14 2013



David Vandenberg – Managing Director

State of Origin: NM
Accrediting Authority: N/A ID:N/A
QAPP: DOD Ver 4.1 without flagging



Record of Sample Receipt and Inspection

Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

The following discrepancies were noted:

Discrepancy	Resolution
MPL 13-1013-1 on the chain of custody, but, labels say "HTA" 13-1013-1 MPL 13-1013-2 on the chain of custody, but, labels say "HTA" 13-1013-2. Logged per the chain of custody per SLM. CLS	Please proceed.

Coolers

Cooler #	Temperature Gun	Temperature	COC #	Airbill #	Temp Required?
0015121	I	4.0		1002239514510004575000804334337650	X

Inspection Checklist

#	Question	Result
1	Were shipping coolers sealed?	Yes
2	Were custody seals intact?	Yes
3	Were cooler temperatures in range of 0-6?	Yes
4	Was ice present?	Yes
5	Were COC's received/information complete/signed and dated?	Yes
6	Were sample containers intact and match COC?	Yes
7	Were sample labels intact and match COC?	No
8	Were the correct containers and volumes received?	Yes
9	Were samples received within EPA hold times?	Yes
10	Were correct preservatives used? (water only)	Yes
11	Were pH ranges acceptable? (voa's excluded)	Yes
12	Were VOA samples free of headspace (less than 6mm)?	NA

Samples Received

Client ID	Laboratory ID	Date Collected	Date Received
MPL 13-1013-1	L13101868-01	10/30/2013 09:45	10/31/2013 10:44
MPL 13-1013-2	L13101868-02	10/30/2013 09:45	10/31/2013 10:44
MPL 1-1013-1	L13101868-03	10/30/2013 13:00	10/31/2013 10:44
MPL 18-1013-1	L13101868-04	10/30/2013 14:20	10/31/2013 10:44
MPL 6-1013-1	L13101868-05	10/30/2013 15:35	10/31/2013 10:44



Login Number: L13101868
Department: Conventionals
Analyst: Tammy Morris

METHOD

Analysis SW846 9040C,9045D/EPA 150.1/SM4500-H B (pH)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Narrative ID: 74309
Approved By: Deanna Hesson

A handwritten signature in black ink, appearing to read "Deanna Hesson", is written over a horizontal line.



Login Number: L13101868
Department: Metals
Analyst: Kim Rhodes

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6010

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration Verification: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

BATCH QA/QC

Method Blank: WG451450 - The method blank associated with this analytical batch yielded a noncompliant result for vanadium. All batch QA/QC and client samples were reanalyzed on a later calibration for vanadium.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG451450 - All acceptance criteria were met.

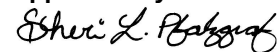
Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: WG451450 - Client samples 01 through 05 required dilution analyses in order to obtain results for calcium within the calibration range.

Narrative ID: 73999

Approved By: Sheri Pfalzgraf





Login Number: L13101868
Department: Metals
Analyst: Ji Hu

METHOD

Preparation: SW-846 3015

Analysis: SW-846 6020

HOLDING TIMES

Sample Preparation: All holding times were met.

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Interference Check Standards: All acceptance criteria were met.

Continuing Calibration: All acceptance criteria were met.

Continuing Calibration Blank: All acceptance criteria were met.

Low Level Check: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Serial Dilution/Post Digestion Spikes: WG451378 - All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

Narrative ID: 74015

Approved By: Sheri Pfalzgraf





Login Number: L13101868
Department: General Chromatography
Analyst: Jeremy Kinney

METHOD

Analysis EPA300.0/SW846 9056

HOLDING TIMES

Sample Analysis: Hold times for NO₂ and NO₃ are 48 hours and the hold times for F, Cl, Br, and SO₄ are 28 days. The hold time forms calculate the hold time based on 48 hours. All samples were analyzed in hold.

CALIBRATION

Initial Calibration: All acceptance criteria were met.

Alternate Source Standards: All acceptance criteria were met.

Continuing Calibration: All acceptance criteria were met.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: The MS/MSD results were not associated with this sample delivery group.

SAMPLES

Samples: Fractions -01 and -02 were analyzed at dilution only due to the concentrations of one or more of the target analytes being near or greater than the ICAL.

MANUAL INTEGRATION: No manual integration was required.

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Narrative ID: 74235
Approved By: Mike Cochran





Login Number: L13101868
Department: Conventionals
Analyst: Brice Fenton

METHOD

Analysis EPA 310.2 (Alkalinity)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 74307
Approved By: Deanna Hesson

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Login Number: L13101868
Department: Conventionals
Analyst: Dorothy Payne

METHOD

Analysis SW846 9014/9010C/SM4500-CN-C,E-20th (Cyanide)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Cyanide-Amenable is the difference between the total cyanide and the treated cyanide. The LCS is analyzed to show that all of the cyanide is amenable (the treated portion is ND). The LCS forms cannot calculate cyanide amenable. The LCS is acceptable.

Sample #	Analyte	Date	Result	Lower	Upper	Type
WG451865-02	Cyanide	2013-11-08 15:30:04	8.00	90	110	Recovery

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 74313

Approved By: Deanna Hesson

Deanna Hesson



Login Number: L13101868
Department: Conventionals
Analyst: Deanna Hesson

METHOD

Analysis EPA 120.1/SM2510 B (Conductivity)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 74308
Approved By: Deanna Hesson

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Login Number: L13101868
Department: Conventionals
Analyst: Brice Fenton

METHOD

Analysis EPA 350.1/SM4500-NH3 B(NH3)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 74310
Approved By: Deanna Hesson

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Login Number: L13101868
Department: Conventionals
Analyst: Brice Fenton

METHOD

Analysis EPA 353.2/SM4500-NO3 F (Nitrate)

HOLDING TIMES

Sample Analysis: The instrument used for the analysis of nitrate only analyzes for nitrate-nitrite (NO₃NO₂) which is the amount of total nitrate (NO₃) and nitrite (NO₂) combined. The NO₃ concentration is determined by analyzing for NO₃NO₂ and NO₂ and calculating NO₃ by the difference. An unpreserved bottle only has a 48 hour hold time for NO₃ and NO₂ separately. However if the bottle is preserved with sulfuric acid, the hold time for NO₃NO₂ is 28 days. The NO₂ was analyzed within 48 hours. The NO₃NO₂ was analyzed from a preserved container within 28 days..

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 74311
Approved By: Deanna Hesson

Dannat/Person



Login Number: L13101868
Department: Conventionals
Analyst: Dorothy Payne

METHOD

Analysis EPA 365.2/SM4500-P E (Orthophosphate)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 74312
Approved By: Deanna Hesson

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Login Number: L13101868
Department: Conventionals
Analyst: April Greene

METHOD

Analysis EPA 160.1/SM2540 C(Total Dissolved Solids)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: Recoveries out of range were observed for the following analytes: Total Dissolved Solids. Please see the applicable QC report for a detailed presentation of the failures.

Sample #	Analyte	Date	Result	Lower	Upper	Type
WG450990-03	Total Dissolved Solids	2013-11-01 07:28:03	10.0		10	RPD

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 74315
Approved By: Deanna Hesson

Dannat/Person



Login Number: L13101868
Department: Conventionals
Analyst: Brice Fenton

METHOD

Analysis Water: EPA 415.1/SM5310C/SW846 9060 (Total Organic Carbon)
Soil: Lloyd-Khan Methodology

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: All acceptance criteria were met.

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 74314
Approved By: Deanna Hesson

A handwritten signature in cursive script, appearing to read "Deanna Hesson", is written in black ink.



Login Number: L13101868
Department: Conventionals
Analyst: April Greene

METHOD

Analysis EPA 160.2/SM2540 D (Total Suspended Solids)

HOLDING TIMES

Sample Analysis: All holding times were met.

PREPARATION

Sample preparation proceeded normally.

BATCH QA/QC

Method Blank: All acceptance criteria were met.

Laboratory Control Sample: The RPD for the LCS/LCS duplicate exceeded the advisory limits. Each LCS had an acceptable recovery.

Sample #	Analyte	Date	Result	Lower	Upper	Type
WG451099-03	Total Suspended Solids	2013-11-01 14:55:03	11.0		10	RPD

Duplicates: All acceptance criteria were met.

Matrix Spikes: All acceptance criteria were met.

SAMPLES

Samples: All acceptance criteria were met.

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Narrative ID: 73921
Approved By: Deanna Hesson

Anna Hesson

Certificate of Analysis

Sample #: L13101868-01	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MPL 13-1013-1	Prep Method: 3015	Prep Date: 11/04/2013 09:38
Matrix: Water	Analytical Method: 6010B	Cal Date: 11/06/2013 09:57
Workgroup #: WG451450	Analyst: KHR	Run Date: 11/06/2013 11:03
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: P2.110613.110315
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Vanadium, Total	7440-62-2	0.0106		0.0100	0.00500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-01	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MPL 13-1013-1	Prep Method: 3015	Prep Date: 11/04/2013 09:38
Matrix: Water	Analytical Method: 6010B	Cal Date: 11/05/2013 09:45
Workgroup #: WG451450	Analyst: KHR	Run Date: 11/05/2013 11:31
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: P2.110513.113113
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Magnesium, Total	7439-95-4	7.43		0.500	0.250
Potassium, Total	7440-09-7	2.43		1.00	0.500
Sodium, Total	7440-23-5	22.7		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Zinc, Total	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-01	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MPL 13-1013-1	Prep Method: 3015	Prep Date: 11/04/2013 09:38
Matrix: Water	Analytical Method: 6010B	Cal Date: 11/05/2013 09:45
Workgroup #: WG451450	Analyst: KHR	Run Date: 11/05/2013 12:18
Collect Date: 10/30/2013 09:45	Dilution: 10	File ID: P2.110513.121843
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	46.5		5.00	2.50
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-01	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MPL 13-1013-1	Prep Method: 3015	Prep Date: 11/01/2013 11:33
Matrix: Water	Analytical Method: 6020	Cal Date: 11/05/2013 10:02
Workgroup #: WG451378	Analyst: JYH	Run Date: 11/05/2013 17:20
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: NI.110513.172010
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00117		0.00100	0.000500
Barium, Total	7440-39-3	0.0904		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00207		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00130	J	0.00200	0.00100
Nickel, Total	7440-02-0	0.00220	J	0.00400	0.00200
Selenium, Total	7782-49-2	0.00337		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-01	PrePrep Method: N/A	Instrument: CVAA1
Client ID: MPL 13-1013-1	Prep Method: 7470A	Prep Date: 11/01/2013 09:02
Matrix: Water	Analytical Method: 7470A	Cal Date: 11/04/2013 09:57
Workgroup #: WG451271	Analyst: PDM	Run Date: 11/04/2013 11:19
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: M7.110413.111901
Sample Tag: 01	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Mercury		7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L13101868-01	PrePrep Method: N/A	Instrument: IC1
Client ID: MPL 13-1013-1	Prep Method: 300.0	Prep Date: 11/07/2013 12:03
Matrix: Water	Analytical Method: 300.0	Cal Date: 11/06/2013 10:26
Workgroup #: WG451877	Analyst: JBK	Run Date: 11/07/2013 14:54
Collect Date: 10/30/2013 09:45	Dilution: 3	File ID: I1_110713-13
Sample Tag: DL01	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Chloride		16887-00-6	32.0		0.600	0.300
Fluoride		16984-48-8	0.336	J	0.600	0.300
Sulfate		14808-79-8	51.5		3.00	1.50
J	Estimated value ; the analyte concentration was less than the LOQ.					

Certificate of Analysis

Sample #: L13101868-01	PrePrep Method: N/A	Instrument: ORION-4STAR
Client ID: MPL 13-1013-1	Prep Method: 9040C	Prep Date: N/A
Matrix: Water	Analytical Method: 9040C	Cal Date:
Workgroup #: WG451074	Analyst: TMM	Run Date: 11/01/2013 07:55
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: OS13110415415901
Sample Tag:	Units: UNITS	

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.74		0.000	0.000
Temperature At Determination (C)				0.000	0.000

Sample #: L13101868-01	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 13-1013-1	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/01/2013 13:02
Workgroup #: WG451115	Analyst: BAF	Run Date: 11/01/2013 13:13
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: S2131101002.027
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	82.8		20.0	10.0

Sample #: L13101868-01	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 13-1013-1	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/01/2013 13:02
Workgroup #: WG451115	Analyst: BAF	Run Date: 11/01/2013 13:13
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: S2131101002.027
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	82.8		20.0	10.0

Sample #: L13101868-01	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 13-1013-1	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/01/2013 13:02
Workgroup #: WG451115	Analyst: BAF	Run Date: 11/01/2013 13:13
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: S2131101002.027
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Carbonate (as CaCO3)	13-01-4		U	20.0	10.0

Certificate of Analysis

U	Analyte was not detected. The concentration is below the reported LOD.
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Certificate of Analysis

Sample #: L13101868-01	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 13-1013-1	Prep Method: SM4500-CN-I	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-CN-I	Cal Date: 11/06/2013 10:20
Workgroup #: WG451301	Analyst: DCM	Run Date: 11/06/2013 16:10
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: 1V.1311061610-06
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Weak/Dissociable	57-12-5	0.0165		0.0100	0.00500

Sample #: L13101868-01	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 13-1013-1	Prep Method: SM4500-CN-C,G-1999	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-CN-C,G-1999	Cal Date: 11/08/2013 09:20
Workgroup #: WG451865	Analyst: DCM	Run Date: 11/08/2013 15:30
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: 1V.1311081530-05
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Amenable to Chlor.	57-12-5	0.148		0.0100	0.00500

Sample #: L13101868-01	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 13-1013-1	Prep Method: 9014-9010C	Prep Date: N/A
Matrix: Water	Analytical Method: 9014-9010C	Cal Date: 11/06/2013 11:30
Workgroup #: WG451297	Analyst: DCM	Run Date: 11/06/2013 12:15
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: 1V.1311061215-07
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide	57-12-5	0.150		0.0100	0.00500

Sample #: L13101868-01	PrePrep Method: N/A	Instrument: TIAMO1
Client ID: MPL 13-1013-1	Prep Method: 120.1	Prep Date: N/A
Matrix: Water	Analytical Method: 120.1	Cal Date:
Workgroup #: WG451008	Analyst: DIH	Run Date: 10/31/2013 16:45
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: TI.103113.1645CO
Sample Tag: 01	Units: umhos/cm	

Analyte	CAS #	Result	Qual	LOQ	LOD
Conductivity		389		50.0	10.0

Certificate of Analysis

Sample #: L13101868-01	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: MPL 13-1013-1	Prep Method: 350.1	Prep Date: N/A
Matrix: Water	Analytical Method: 350.1	Cal Date: 11/05/2013 10:23
Workgroup #: WG451431	Analyst: BAF	Run Date: 11/05/2013 10:41
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: SC131105002.027
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7		U	0.100	0.0500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-01	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: MPL 13-1013-1	Prep Method: 353.2	Prep Date: N/A
Matrix: Water	Analytical Method: 353.2	Cal Date: 11/05/2013 10:23
Workgroup #: WG451544	Analyst: BAF	Run Date: 11/06/2013 09:30
Collect Date: 10/30/2013 09:45	Dilution: 4	File ID: SC13110811351601
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		4.82		0.200	0.100

Sample #: L13101868-01	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 13-1013-1	Prep Method: SM4500-P-E-1999	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-P-E-1999	Cal Date: 10/30/2013 09:00
Workgroup #: WG450894	Analyst: DLP	Run Date: 10/31/2013 08:30
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: 1V.1310310830-13
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Orthophosphate	14265-44-2	0.146		0.0500	0.0250

Sample #: L13101868-01	PrePrep Method: N/A	Instrument: OVEN
Client ID: MPL 13-1013-1	Prep Method: 160.1/SM2540C	Prep Date: N/A
Matrix: Water	Analytical Method: SM2540-C-1997	Cal Date:
Workgroup #: WG450990	Analyst: ADG	Run Date: 11/01/2013 07:28
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: EN.1311010728-19
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		218		20.0	10.0

Sample #: L13101868-01	PrePrep Method: N/A	Instrument: TOC-VWP
Client ID: MPL 13-1013-1	Prep Method: 415.1	Prep Date: N/A
Matrix: Water	Analytical Method: 415.1	Cal Date: 07/09/2013 14:51
Workgroup #: WG451144	Analyst: BAF	Run Date: 11/01/2013 19:21
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: TC11012013.018
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	1.32		1.00	0.500

Certificate of Analysis

Sample #: L13101868-01

PrePrep Method: N/A

Instrument: OVEN

Client ID: MPL 13-1013-1

Prep Method: 160.2/SM2540D

Prep Date: N/A

Matrix: Water

Analytical Method: SM2540-D-1997

Cal Date:

Workgroup #: WG451099

Analyst: ADG

Run Date: 11/01/2013 14:55

Collect Date: 10/30/2013 09:45

Dilution: 1

File ID: EN.1311011455-08

Sample Tag:

Units: mg/L

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids			U	5.00	2.50
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-02	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MPL 13-1013-2	Prep Method: 3015	Prep Date: 11/04/2013 09:38
Matrix: Water	Analytical Method: 6010B	Cal Date: 11/06/2013 09:57
Workgroup #: WG451450	Analyst: KHR	Run Date: 11/06/2013 11:06
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: P2.110613.110615
Sample Tag: 02	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Vanadium, Total		7440-62-2	0.00793	J	0.0100	0.00500
J	Estimated value ; the analyte concentration was less than the LOQ.					
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L13101868-02	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MPL 13-1013-2	Prep Method: 3015	Prep Date: 11/04/2013 09:38
Matrix: Water	Analytical Method: 6010B	Cal Date: 11/05/2013 09:45
Workgroup #: WG451450	Analyst: KHR	Run Date: 11/05/2013 11:34
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: P2.110513.113413
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Magnesium, Total	7439-95-4	6.96		0.500	0.250
Potassium, Total	7440-09-7	2.34		1.00	0.500
Sodium, Total	7440-23-5	21.5		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Zinc, Total	7440-66-6		U	0.0200	0.0100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-02	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MPL 13-1013-2	Prep Method: 3015	Prep Date: 11/04/2013 09:38
Matrix: Water	Analytical Method: 6010B	Cal Date: 11/05/2013 09:45
Workgroup #: WG451450	Analyst: KHR	Run Date: 11/05/2013 12:21
Collect Date: 10/30/2013 09:45	Dilution: 10	File ID: P2.110513.122143
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	44.4		5.00	2.50
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-02	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MPL 13-1013-2	Prep Method: 3015	Prep Date: 11/01/2013 11:33
Matrix: Water	Analytical Method: 6020	Cal Date: 11/05/2013 10:02
Workgroup #: WG451378	Analyst: JYH	Run Date: 11/05/2013 17:29
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: NI.110513.172927
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00141		0.00100	0.000500
Barium, Total	7440-39-3	0.0935		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00219		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00127	J	0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2	0.00452		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-02	PrePrep Method: N/A	Instrument: CVAA1
Client ID: MPL 13-1013-2	Prep Method: 7470A	Prep Date: 11/01/2013 09:02
Matrix: Water	Analytical Method: 7470A	Cal Date: 11/04/2013 09:57
Workgroup #: WG451271	Analyst: PDM	Run Date: 11/04/2013 11:26
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: M7.110413.112633
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-02	PrePrep Method: N/A	Instrument: IC1
Client ID: MPL 13-1013-2	Prep Method: 300.0	Prep Date: 11/08/2013 09:47
Matrix: Water	Analytical Method: 300.0	Cal Date: 11/06/2013 10:26
Workgroup #: WG452040	Analyst: JBK	Run Date: 11/08/2013 10:54
Collect Date: 10/30/2013 09:45	Dilution: 2	File ID: I1_110813-07
Sample Tag: DL01	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Chloride		16887-00-6	34.8		0.400	0.200
Fluoride		16984-48-8	0.332	J	0.400	0.200
Sulfate		14808-79-8	53.8		2.00	1.00
J	Estimated value ; the analyte concentration was less than the LOQ.					

Certificate of Analysis

Sample #: L13101868-02	PrePrep Method: N/A	Instrument: ORION-4STAR
Client ID: MPL 13-1013-2	Prep Method: 9040C	Prep Date: N/A
Matrix: Water	Analytical Method: 9040C	Cal Date:
Workgroup #: WG451074	Analyst: TMM	Run Date: 11/01/2013 07:56
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: OS13110415420201
Sample Tag:	Units: UNITS	

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.81		0.000	0.000
Temperature At Determination (C)				0.000	0.000

Sample #: L13101868-02	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 13-1013-2	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/01/2013 13:02
Workgroup #: WG451115	Analyst: BAF	Run Date: 11/01/2013 13:14
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: S2131101002.028
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Carbonate (as CaCO3)	13-01-4		U	20.0	10.0
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-02	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 13-1013-2	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/01/2013 13:02
Workgroup #: WG451115	Analyst: BAF	Run Date: 11/01/2013 13:14
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: S2131101002.028
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO ₃)	11-43-8	91.0		20.0	10.0

Sample #: L13101868-02	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 13-1013-2	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/01/2013 13:02
Workgroup #: WG451115	Analyst: BAF	Run Date: 11/01/2013 13:14
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: S2131101002.028
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO ₃)	13-00-3	91.0		20.0	10.0

Sample #: L13101868-02	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 13-1013-2	Prep Method: SM4500-CN-I	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-CN-I	Cal Date: 11/06/2013 10:20
Workgroup #: WG451301	Analyst: DCM	Run Date: 11/06/2013 16:10
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: 1V.1311061610-07
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Weak/Dissociable	57-12-5	0.0124		0.0100	0.00500

Sample #: L13101868-02	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 13-1013-2	Prep Method: 9014-9010C	Prep Date: N/A
Matrix: Water	Analytical Method: 9014-9010C	Cal Date: 11/06/2013 11:30
Workgroup #: WG451297	Analyst: DCM	Run Date: 11/06/2013 12:15
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: 1V.1311061215-08
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide	57-12-5	0.166		0.0100	0.00500

Certificate of Analysis

Sample #: L13101868-02	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 13-1013-2	Prep Method: SM4500-CN-C,G-1999	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-CN-C,G-1999	Cal Date: 11/08/2013 09:20
Workgroup #: WG451865	Analyst: DCM	Run Date: 11/08/2013 15:30
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: 1V.1311081530-06
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Amenable to Chlor.	57-12-5	0.165		0.0100	0.00500

Sample #: L13101868-02	PrePrep Method: N/A	Instrument: TIAMO1
Client ID: MPL 13-1013-2	Prep Method: 120.1	Prep Date: N/A
Matrix: Water	Analytical Method: 120.1	Cal Date:
Workgroup #: WG451008	Analyst: DIH	Run Date: 10/31/2013 16:47
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: TI.103113.1647CO
Sample Tag: 01	Units: umhos/cm	

Analyte	CAS #	Result	Qual	LOQ	LOD
Conductivity		389		50.0	10.0

Sample #: L13101868-02	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: MPL 13-1013-2	Prep Method: 350.1	Prep Date: N/A
Matrix: Water	Analytical Method: 350.1	Cal Date: 11/05/2013 10:23
Workgroup #: WG451431	Analyst: BAF	Run Date: 11/05/2013 10:43
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: SC131105002.028
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7		U	0.100	0.0500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-02	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: MPL 13-1013-2	Prep Method: 353.2	Prep Date: N/A
Matrix: Water	Analytical Method: 353.2	Cal Date: 11/05/2013 10:23
Workgroup #: WG451544	Analyst: BAF	Run Date: 11/06/2013 09:30
Collect Date: 10/30/2013 09:45	Dilution: 4	File ID: SC13110811352501
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		4.61		0.200	0.100

Sample #: L13101868-02	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 13-1013-2	Prep Method: SM4500-P-E-1999	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-P-E-1999	Cal Date: 10/30/2013 09:00
Workgroup #: WG450894	Analyst: DLP	Run Date: 10/31/2013 08:30
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: 1V.1310310830-14
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Orthophosphate	14265-44-2		U	0.0500	0.0250
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-02	PrePrep Method: N/A	Instrument: OVEN
Client ID: MPL 13-1013-2	Prep Method: 160.1/SM2540C	Prep Date: N/A
Matrix: Water	Analytical Method: SM2540-C-1997	Cal Date:
Workgroup #: WG450990	Analyst: ADG	Run Date: 11/01/2013 07:28
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: EN.1311010728-20
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		228		20.0	10.0

Sample #: L13101868-02	PrePrep Method: N/A	Instrument: TOC-VWP
Client ID: MPL 13-1013-2	Prep Method: 415.1	Prep Date: N/A
Matrix: Water	Analytical Method: 415.1	Cal Date: 07/09/2013 14:51
Workgroup #: WG451144	Analyst: BAF	Run Date: 11/01/2013 19:33
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: TC11012013.019
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	1.18		1.00	0.500

Sample #: L13101868-02	PrePrep Method: N/A	Instrument: OVEN
Client ID: MPL 13-1013-2	Prep Method: 160.2/SM2540D	Prep Date: N/A
Matrix: Water	Analytical Method: SM2540-D-1997	Cal Date:
Workgroup #: WG451099	Analyst: ADG	Run Date: 11/01/2013 14:55
Collect Date: 10/30/2013 09:45	Dilution: 1	File ID: EN.1311011455-09
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids			U	5.00	2.50
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-03	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MPL 1-1013-1	Prep Method: 3015	Prep Date: 11/04/2013 09:38
Matrix: Water	Analytical Method: 6010B	Cal Date: 11/06/2013 09:57
Workgroup #: WG451450	Analyst: KHR	Run Date: 11/06/2013 11:09
Collect Date: 10/30/2013 13:00	Dilution: 1	File ID: P2.110613.110915
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Vanadium, Total	7440-62-2	0.0153		0.0100	0.00500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-03	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MPL 1-1013-1	Prep Method: 3015	Prep Date: 11/04/2013 09:38
Matrix: Water	Analytical Method: 6010B	Cal Date: 11/05/2013 09:45
Workgroup #: WG451450	Analyst: KHR	Run Date: 11/05/2013 11:37
Collect Date: 10/30/2013 13:00	Dilution: 1	File ID: P2.110513.113713
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Magnesium, Total	7439-95-4	10.0		0.500	0.250
Potassium, Total	7440-09-7	4.10		1.00	0.500
Sodium, Total	7440-23-5	24.4		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Zinc, Total	7440-66-6	0.0862		0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-03	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MPL 1-1013-1	Prep Method: 3015	Prep Date: 11/04/2013 09:38
Matrix: Water	Analytical Method: 6010B	Cal Date: 11/05/2013 09:45
Workgroup #: WG451450	Analyst: KHR	Run Date: 11/05/2013 12:24
Collect Date: 10/30/2013 13:00	Dilution: 10	File ID: P2.110513.122443
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	47.7		5.00	2.50
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-03	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MPL 1-1013-1	Prep Method: 3015	Prep Date: 11/01/2013 11:33
Matrix: Water	Analytical Method: 6020	Cal Date: 11/05/2013 10:02
Workgroup #: WG451378	Analyst: JYH	Run Date: 11/05/2013 17:32
Collect Date: 10/30/2013 13:00	Dilution: 1	File ID: NI.110513.173231
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00256		0.00100	0.000500
Barium, Total	7440-39-3	0.138		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00821		0.00200	0.00100
Cobalt, Total	7440-48-4	0.00173		0.00100	0.000500
Copper, Total	7440-50-8	0.00602		0.00200	0.00100
Lead, Total	7439-92-1	0.00473		0.00100	0.000500
Manganese, Total	7439-96-5	0.0737		0.00200	0.00100
Nickel, Total	7440-02-0	0.00497		0.00400	0.00200
Selenium, Total	7782-49-2	0.00751		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0	0.000112	J	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-03	PrePrep Method: N/A	Instrument: CVAA1
Client ID: MPL 1-1013-1	Prep Method: 7470A	Prep Date: 11/01/2013 09:02
Matrix: Water	Analytical Method: 7470A	Cal Date: 11/04/2013 09:57
Workgroup #: WG451271	Analyst: PDM	Run Date: 11/04/2013 11:31
Collect Date: 10/30/2013 13:00	Dilution: 1	File ID: M7.110413.113136
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-03	PrePrep Method: N/A	Instrument: IC1
Client ID: MPL 1-1013-1	Prep Method: 300.0	Prep Date: 11/08/2013 09:47
Matrix: Water	Analytical Method: 300.0	Cal Date: 11/06/2013 10:26
Workgroup #: WG452040	Analyst: JBK	Run Date: 11/08/2013 11:11
Collect Date: 10/30/2013 13:00	Dilution: 1	File ID: I1_110813-08
Sample Tag: 01	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Chloride		16887-00-6	40.5	J	0.200	0.100
Fluoride		16984-48-8	0.221		0.200	0.100
Sulfate		14808-79-8	45.7		1.00	0.500
J	Estimated value ; the analyte concentration was greater than the highest standard					

Certificate of Analysis

Sample #: L13101868-03	PrePrep Method: N/A	Instrument: IC1
Client ID: MPL 1-1013-1	Prep Method: 300.0	Prep Date: 11/07/2013 12:03
Matrix: Water	Analytical Method: 300.0	Cal Date: 11/06/2013 10:26
Workgroup #: WG451877	Analyst: JBK	Run Date: 11/07/2013 16:03
Collect Date: 10/30/2013 13:00	Dilution: 5	File ID: I1_110713-17
Sample Tag: DL01	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Chloride		16887-00-6	32.7		1.00	0.500
Fluoride		16984-48-8		U	1.00	0.500
Sulfate		14808-79-8	41.4		5.00	2.50
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L13101868-03	PrePrep Method: N/A	Instrument: ORION-4STAR
Client ID: MPL 1-1013-1	Prep Method: 9040C	Prep Date: N/A
Matrix: Water	Analytical Method: 9040C	Cal Date:
Workgroup #: WG451074	Analyst: TMM	Run Date: 11/01/2013 07:57
Collect Date: 10/30/2013 13:00	Dilution: 1	File ID: OS13110415420601
Sample Tag:	Units: UNITS	

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	8.95		0.000	0.000
Temperature At Determination (C)				0.000	0.000

Sample #: L13101868-03	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 1-1013-1	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/01/2013 13:02
Workgroup #: WG451115	Analyst: BAF	Run Date: 11/01/2013 13:14
Collect Date: 10/30/2013 13:00	Dilution: 1	File ID: S2131101002.029
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	91.1		20.0	10.0

Sample #: L13101868-03	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 1-1013-1	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/01/2013 13:02
Workgroup #: WG451115	Analyst: BAF	Run Date: 11/01/2013 13:14
Collect Date: 10/30/2013 13:00	Dilution: 1	File ID: S2131101002.029
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Carbonate (as CaCO3)	13-01-4		U	20.0	10.0
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-03	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 1-1013-1	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/01/2013 13:02
Workgroup #: WG451115	Analyst: BAF	Run Date: 11/01/2013 13:14
Collect Date: 10/30/2013 13:00	Dilution: 1	File ID: S2131101002.029
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO ₃)	13-00-3	91.1		20.0	10.0

Sample #: L13101868-03	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 1-1013-1	Prep Method: SM4500-CN-I	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-CN-I	Cal Date: 11/06/2013 10:20
Workgroup #: WG451301	Analyst: DCM	Run Date: 11/06/2013 16:10
Collect Date: 10/30/2013 13:00	Dilution: 1	File ID: 1V.1311061610-08
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Weak/Dissociable	57-12-5	0.0183		0.0100	0.00500

Sample #: L13101868-03	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 1-1013-1	Prep Method: 9014-9010C	Prep Date: N/A
Matrix: Water	Analytical Method: 9014-9010C	Cal Date: 11/06/2013 11:30
Workgroup #: WG451297	Analyst: DCM	Run Date: 11/06/2013 12:15
Collect Date: 10/30/2013 13:00	Dilution: 1	File ID: 1V.1311061215-09
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide	57-12-5	0.257		0.0100	0.00500

Sample #: L13101868-03	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 1-1013-1	Prep Method: SM4500-CN-C,G-1999	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-CN-C,G-1999	Cal Date: 11/08/2013 09:20
Workgroup #: WG451865	Analyst: DCM	Run Date: 11/08/2013 15:30
Collect Date: 10/30/2013 13:00	Dilution: 1	File ID: 1V.1311081530-07
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Amenable to Chlor.	57-12-5	0.257		0.0100	0.00500

Certificate of Analysis

Sample #: L13101868-03	PrePrep Method: N/A	Instrument: TIAMO1
Client ID: MPL 1-1013-1	Prep Method: 120.1	Prep Date: N/A
Matrix: Water	Analytical Method: 120.1	Cal Date:
Workgroup #: WG451012	Analyst: DIH	Run Date: 10/31/2013 16:57
Collect Date: 10/30/2013 13:00	Dilution: 1	File ID: TI.103113.1657CO
Sample Tag: 01	Units: umhos/cm	

Analyte	CAS #	Result	Qual	LOQ	LOD
Conductivity		410		50.0	10.0

Sample #: L13101868-03	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: MPL 1-1013-1	Prep Method: 350.1	Prep Date: N/A
Matrix: Water	Analytical Method: 350.1	Cal Date: 11/05/2013 10:23
Workgroup #: WG451431	Analyst: BAF	Run Date: 11/05/2013 10:43
Collect Date: 10/30/2013 13:00	Dilution: 1	File ID: SC131105002.029
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7		U	0.100	0.0500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-03	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: MPL 1-1013-1	Prep Method: 353.2	Prep Date: N/A
Matrix: Water	Analytical Method: 353.2	Cal Date: 11/05/2013 10:23
Workgroup #: WG451544	Analyst: BAF	Run Date: 11/06/2013 09:30
Collect Date: 10/30/2013 13:00	Dilution: 4	File ID: SC13110811353401
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		5.84		0.200	0.100

Sample #: L13101868-03	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 1-1013-1	Prep Method: SM4500-P-E-1999	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-P-E-1999	Cal Date: 10/30/2013 09:00
Workgroup #: WG450894	Analyst: DLP	Run Date: 10/31/2013 08:30
Collect Date: 10/30/2013 13:00	Dilution: 1	File ID: 1V.1310310830-15
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Orthophosphate	14265-44-2		U	0.0500	0.0250
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-03	PrePrep Method: N/A	Instrument: OVEN
Client ID: MPL 1-1013-1	Prep Method: 160.1/SM2540C	Prep Date: N/A
Matrix: Water	Analytical Method: SM2540-C-1997	Cal Date:
Workgroup #: WG450990	Analyst: ADG	Run Date: 11/01/2013 07:28
Collect Date: 10/30/2013 13:00	Dilution: 1	File ID: EN.1311010728-21
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		256		20.0	10.0

Sample #: L13101868-03	PrePrep Method: N/A	Instrument: TOC-VWP
Client ID: MPL 1-1013-1	Prep Method: 415.1	Prep Date: N/A
Matrix: Water	Analytical Method: 415.1	Cal Date: 07/09/2013 14:51
Workgroup #: WG451144	Analyst: BAF	Run Date: 11/01/2013 19:45
Collect Date: 10/30/2013 13:00	Dilution: 1	File ID: TC11012013.020
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	1.10		1.00	0.500

Sample #: L13101868-03	PrePrep Method: N/A	Instrument: OVEN
Client ID: MPL 1-1013-1	Prep Method: 160.2/SM2540D	Prep Date: N/A
Matrix: Water	Analytical Method: SM2540-D-1997	Cal Date:
Workgroup #: WG451099	Analyst: ADG	Run Date: 11/01/2013 14:55
Collect Date: 10/30/2013 13:00	Dilution: 1	File ID: EN.1311011455-10
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids		132		5.00	2.50

Sample #: L13101868-04	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MPL 18-1013-1	Prep Method: 3015	Prep Date: 11/04/2013 09:38
Matrix: Water	Analytical Method: 6010B	Cal Date: 11/05/2013 09:45
Workgroup #: WG451450	Analyst: KHR	Run Date: 11/05/2013 11:39
Collect Date: 10/30/2013 14:20	Dilution: 1	File ID: P2.110513.113916
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Magnesium, Total	7439-95-4	6.25		0.500	0.250

Certificate of Analysis

Analyte		CAS #	Result	Qual	LOQ	LOD
Potassium, Total		7440-09-7	2.23		1.00	0.500
Sodium, Total		7440-23-5	19.6		0.500	0.250
Tin, Total		7440-31-5		U	0.500	0.250
Zinc, Total		7440-66-6		U	0.0200	0.0100
J	Estimated value ; the analyte concentration was less than the LOQ.					
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L13101868-04	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MPL 18-1013-1	Prep Method: 3015	Prep Date: 11/04/2013 09:38
Matrix: Water	Analytical Method: 6010B	Cal Date: 11/06/2013 09:57
Workgroup #: WG451450	Analyst: KHR	Run Date: 11/06/2013 11:11
Collect Date: 10/30/2013 14:20	Dilution: 1	File ID: P2.110613.111118
Sample Tag: 02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Vanadium, Total	7440-62-2	0.0113		0.0100	0.00500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-04	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MPL 18-1013-1	Prep Method: 3015	Prep Date: 11/04/2013 09:38
Matrix: Water	Analytical Method: 6010B	Cal Date: 11/05/2013 09:45
Workgroup #: WG451450	Analyst: KHR	Run Date: 11/05/2013 12:27
Collect Date: 10/30/2013 14:20	Dilution: 10	File ID: P2.110513.122743
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	35.9		5.00	2.50
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-04	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MPL 18-1013-1	Prep Method: 3015	Prep Date: 11/01/2013 11:33
Matrix: Water	Analytical Method: 6020	Cal Date: 11/05/2013 10:02
Workgroup #: WG451378	Analyst: JYH	Run Date: 11/05/2013 17:35
Collect Date: 10/30/2013 14:20	Dilution: 1	File ID: NI.110513.173536
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00203		0.00100	0.000500
Barium, Total	7440-39-3	0.132		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00350		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00288		0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2	0.00198		0.00100	0.000500
Silver, Total	7440-22-4		U	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-04	PrePrep Method: N/A	Instrument: CVAA1
Client ID: MPL 18-1013-1	Prep Method: 7470A	Prep Date: 11/01/2013 09:02
Matrix: Water	Analytical Method: 7470A	Cal Date: 11/04/2013 09:57
Workgroup #: WG451271	Analyst: PDM	Run Date: 11/04/2013 11:34
Collect Date: 10/30/2013 14:20	Dilution: 1	File ID: M7.110413.113407
Sample Tag: 01	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Mercury		7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L13101868-04	PrePrep Method: N/A	Instrument: IC1
Client ID: MPL 18-1013-1	Prep Method: 300.0	Prep Date: 11/08/2013 09:47
Matrix: Water	Analytical Method: 300.0	Cal Date: 11/06/2013 10:26
Workgroup #: WG452040	Analyst: JBK	Run Date: 11/08/2013 11:29
Collect Date: 10/30/2013 14:20	Dilution: 1	File ID: I1_110813-09
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	13.7		0.200	0.100
Fluoride	16984-48-8	0.305		0.200	0.100
Sulfate	14808-79-8	37.2		1.00	0.500

Sample #: L13101868-04	PrePrep Method: N/A	Instrument: ORION-4STAR
Client ID: MPL 18-1013-1	Prep Method: 9040C	Prep Date: N/A
Matrix: Water	Analytical Method: 9040C	Cal Date:
Workgroup #: WG451074	Analyst: TMM	Run Date: 11/01/2013 07:59
Collect Date: 10/30/2013 14:20	Dilution: 1	File ID: OS13110415420901
Sample Tag:	Units: UNITS	

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.88		0.000	0.000
Temperature At Determination (C)				0.000	0.000

Sample #: L13101868-04	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 18-1013-1	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/01/2013 13:02
Workgroup #: WG451115	Analyst: BAF	Run Date: 11/01/2013 13:15
Collect Date: 10/30/2013 14:20	Dilution: 1	File ID: S2131101002.030
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Carbonate (as CaCO3)	13-01-4		U	20.0	10.0
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-04	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 18-1013-1	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/01/2013 13:02
Workgroup #: WG451115	Analyst: BAF	Run Date: 11/01/2013 13:15
Collect Date: 10/30/2013 14:20	Dilution: 1	File ID: S2131101002.030
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO3)	11-43-8	111		20.0	10.0

Sample #: L13101868-04	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 18-1013-1	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/01/2013 13:02
Workgroup #: WG451115	Analyst: BAF	Run Date: 11/01/2013 13:15
Collect Date: 10/30/2013 14:20	Dilution: 1	File ID: S2131101002.030
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	111		20.0	10.0

Sample #: L13101868-04	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 18-1013-1	Prep Method: 9014-9010C	Prep Date: N/A
Matrix: Water	Analytical Method: 9014-9010C	Cal Date: 11/06/2013 10:20
Workgroup #: WG451297	Analyst: DCM	Run Date: 11/06/2013 12:15
Collect Date: 10/30/2013 14:20	Dilution: 1	File ID: 1V.1311061215-10
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide	57-12-5		U	0.0100	0.00500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-04	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 18-1013-1	Prep Method: SM4500-CN-I	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-CN-I	Cal Date: 11/06/2013 10:20
Workgroup #: WG451301	Analyst: DCM	Run Date: 11/06/2013 16:10
Collect Date: 10/30/2013 14:20	Dilution: 1	File ID: 1V.1311061610-09
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Weak/Dissociable	57-12-5		U	0.0100	0.00500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-04	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 18-1013-1	Prep Method: SM4500-CN-C,G-1999	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-CN-C,G-1999	Cal Date: 11/08/2013 09:20
Workgroup #: WG451865	Analyst: DCM	Run Date: 11/08/2013 15:30
Collect Date: 10/30/2013 14:20	Dilution: 1	File ID: 1V.1311081530-08
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Amenable to Chlor.	57-12-5		U	0.0100	0.00500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-04	PrePrep Method: N/A	Instrument: TIAMO1
Client ID: MPL 18-1013-1	Prep Method: 120.1	Prep Date: N/A
Matrix: Water	Analytical Method: 120.1	Cal Date:
Workgroup #: WG451012	Analyst: DIH	Run Date: 10/31/2013 16:59
Collect Date: 10/30/2013 14:20	Dilution: 1	File ID: TI.103113.1659CO
Sample Tag: 01	Units: umhos/cm	

Analyte	CAS #	Result	Qual	LOQ	LOD
Conductivity		310		50.0	10.0

Sample #: L13101868-04	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: MPL 18-1013-1	Prep Method: 350.1	Prep Date: N/A
Matrix: Water	Analytical Method: 350.1	Cal Date: 11/05/2013 10:23
Workgroup #: WG451431	Analyst: BAF	Run Date: 11/05/2013 10:45
Collect Date: 10/30/2013 14:20	Dilution: 1	File ID: SC131105002.030
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7		U	0.100	0.0500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-04	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: MPL 18-1013-1	Prep Method: 353.2	Prep Date: N/A
Matrix: Water	Analytical Method: 353.2	Cal Date: 11/05/2013 10:23
Workgroup #: WG451544	Analyst: BAF	Run Date: 11/06/2013 09:30
Collect Date: 10/30/2013 14:20	Dilution: 4	File ID: SC13110811354601
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		2.00		0.200	0.100

Sample #: L13101868-04	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 18-1013-1	Prep Method: SM4500-P-E-1999	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-P-E-1999	Cal Date: 10/30/2013 09:00
Workgroup #: WG450894	Analyst: DLP	Run Date: 10/31/2013 08:30
Collect Date: 10/30/2013 14:20	Dilution: 1	File ID: 1V.1310310830-16
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Orthophosphate	14265-44-2		U	0.0500	0.0250
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-04	PrePrep Method: N/A	Instrument: OVEN
Client ID: MPL 18-1013-1	Prep Method: 160.1/SM2540C	Prep Date: N/A
Matrix: Water	Analytical Method: SM2540-C-1997	Cal Date:
Workgroup #: WG450990	Analyst: ADG	Run Date: 11/01/2013 07:28
Collect Date: 10/30/2013 14:20	Dilution: 1	File ID: EN.1311010728-22
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		180		20.0	10.0

Sample #: L13101868-04	PrePrep Method: N/A	Instrument: TOC-VWP
Client ID: MPL 18-1013-1	Prep Method: 415.1	Prep Date: N/A
Matrix: Water	Analytical Method: 415.1	Cal Date: 07/09/2013 14:51
Workgroup #: WG451144	Analyst: BAF	Run Date: 11/01/2013 19:58
Collect Date: 10/30/2013 14:20	Dilution: 1	File ID: TC11012013.021
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	1.41		1.00	0.500

Sample #: L13101868-04	PrePrep Method: N/A	Instrument: OVEN
Client ID: MPL 18-1013-1	Prep Method: 160.2/SM2540D	Prep Date: N/A
Matrix: Water	Analytical Method: SM2540-D-1997	Cal Date:
Workgroup #: WG451320	Analyst: ADG	Run Date: 11/04/2013 13:28
Collect Date: 10/30/2013 14:20	Dilution: 1	File ID: EN.1311041328-04
Sample Tag: 1	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids			U	5.00	2.50
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-05	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MPL 6-1013-1	Prep Method: 3015	Prep Date: 11/04/2013 09:38
Matrix: Water	Analytical Method: 6010B	Cal Date: 11/06/2013 09:57
Workgroup #: WG451450	Analyst: KHR	Run Date: 11/06/2013 11:14
Collect Date: 10/30/2013 15:35	Dilution: 1	File ID: P2.110613.111419
Sample Tag: 02	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Vanadium, Total		7440-62-2	0.00994	J	0.0100	0.00500
J	Estimated value ; the analyte concentration was less than the LOQ.					
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L13101868-05	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MPL 6-1013-1	Prep Method: 3015	Prep Date: 11/04/2013 09:38
Matrix: Water	Analytical Method: 6010B	Cal Date: 11/05/2013 09:45
Workgroup #: WG451450	Analyst: KHR	Run Date: 11/05/2013 11:42
Collect Date: 10/30/2013 15:35	Dilution: 1	File ID: P2.110513.114217
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Beryllium, Total	7440-41-7		U	0.00200	0.00100
Magnesium, Total	7439-95-4	6.62		0.500	0.250
Potassium, Total	7440-09-7	1.91		1.00	0.500
Sodium, Total	7440-23-5	19.5		0.500	0.250
Tin, Total	7440-31-5		U	0.500	0.250
Zinc, Total	7440-66-6		U	0.0200	0.0100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-05	PrePrep Method: N/A	Instrument: PE-ICP2
Client ID: MPL 6-1013-1	Prep Method: 3015	Prep Date: 11/04/2013 09:38
Matrix: Water	Analytical Method: 6010B	Cal Date: 11/05/2013 09:45
Workgroup #: WG451450	Analyst: KHR	Run Date: 11/05/2013 12:30
Collect Date: 10/30/2013 15:35	Dilution: 10	File ID: P2.110513.123043
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Calcium, Total	7440-70-2	35.7		5.00	2.50
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-05	PrePrep Method: N/A	Instrument: ICP-MS2
Client ID: MPL 6-1013-1	Prep Method: 3015	Prep Date: 11/01/2013 11:33
Matrix: Water	Analytical Method: 6020	Cal Date: 11/05/2013 10:02
Workgroup #: WG451378	Analyst: JYH	Run Date: 11/05/2013 17:38
Collect Date: 10/30/2013 15:35	Dilution: 1	File ID: NI.110513.173840
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Antimony, Total	7440-36-0		U	0.00100	0.000500
Arsenic, Total	7440-38-2	0.00174		0.00100	0.000500
Barium, Total	7440-39-3	0.118		0.00300	0.00150
Cadmium, Total	7440-43-9		U	0.000600	0.000300
Chromium, Total	7440-47-3	0.00376		0.00200	0.00100
Cobalt, Total	7440-48-4		U	0.00100	0.000500
Copper, Total	7440-50-8		U	0.00200	0.00100
Lead, Total	7439-92-1		U	0.00100	0.000500
Manganese, Total	7439-96-5	0.00463		0.00200	0.00100
Nickel, Total	7440-02-0		U	0.00400	0.00200
Selenium, Total	7782-49-2	0.00224		0.00100	0.000500
Silver, Total	7440-22-4	0.000712	J	0.00100	0.000500
Thallium, Total	7440-28-0		U	0.000200	0.000100
J	Estimated value ; the analyte concentration was less than the LOQ.				
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-05	PrePrep Method: N/A	Instrument: CVAA1
Client ID: MPL 6-1013-1	Prep Method: 7470A	Prep Date: 11/01/2013 09:02
Matrix: Water	Analytical Method: 7470A	Cal Date: 11/04/2013 09:57
Workgroup #: WG451271	Analyst: PDM	Run Date: 11/04/2013 11:41
Collect Date: 10/30/2013 15:35	Dilution: 1	File ID: M7.110413.114143
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Mercury	7439-97-6		U	0.000200	0.000100
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-05	PrePrep Method: N/A	Instrument: IC1
Client ID: MPL 6-1013-1	Prep Method: 300.0	Prep Date: 11/08/2013 09:47
Matrix: Water	Analytical Method: 300.0	Cal Date: 11/06/2013 10:26
Workgroup #: WG452040	Analyst: JBK	Run Date: 11/08/2013 11:46
Collect Date: 10/30/2013 15:35	Dilution: 1	File ID: I1_110813-10
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Chloride	16887-00-6	21.3		0.200	0.100
Fluoride	16984-48-8	0.302		0.200	0.100
Sulfate	14808-79-8	39.9		1.00	0.500

Sample #: L13101868-05	PrePrep Method: N/A	Instrument: ORION-4STAR
Client ID: MPL 6-1013-1	Prep Method: 9040C	Prep Date: N/A
Matrix: Water	Analytical Method: 9040C	Cal Date:
Workgroup #: WG451074	Analyst: TMM	Run Date: 11/01/2013 08:00
Collect Date: 10/30/2013 15:35	Dilution: 1	File ID: OS13110415421201
Sample Tag:	Units: UNITS	

Analyte	CAS #	Result	Qual	LOQ	LOD
Corrosivity pH	10-29-7	7.95		0.000	0.000
Temperature At Determination (C)				0.000	0.000

Sample #: L13101868-05	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 6-1013-1	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/01/2013 13:02
Workgroup #: WG451115	Analyst: BAF	Run Date: 11/01/2013 13:16
Collect Date: 10/30/2013 15:35	Dilution: 1	File ID: S2131101002.031
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Bicarbonate (as CaCO3)	13-00-3	101		20.0	10.0

Sample #: L13101868-05	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 6-1013-1	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/01/2013 13:02
Workgroup #: WG451115	Analyst: BAF	Run Date: 11/01/2013 13:16
Collect Date: 10/30/2013 15:35	Dilution: 1	File ID: S2131101002.031
Sample Tag: 01	Units: mg/L	

Certificate of Analysis

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Total (as CaCO ₃)	11-43-8	101		20.0	10.0

Sample #: L13101868-05	PrePrep Method: N/A	Instrument: SMARTCHEM2
Client ID: MPL 6-1013-1	Prep Method: 310.2	Prep Date: N/A
Matrix: Water	Analytical Method: 310.2	Cal Date: 11/01/2013 13:02
Workgroup #: WG451115	Analyst: BAF	Run Date: 11/01/2013 13:16
Collect Date: 10/30/2013 15:35	Dilution: 1	File ID: S2131101002.031
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Alkalinity, Carbonate (as CaCO ₃)	13-01-4		U	20.0	10.0
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-05	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 6-1013-1	Prep Method: 9014-9010C	Prep Date: N/A
Matrix: Water	Analytical Method: 9014-9010C	Cal Date: 11/06/2013 10:20
Workgroup #: WG451297	Analyst: DCM	Run Date: 11/06/2013 12:15
Collect Date: 10/30/2013 15:35	Dilution: 1	File ID: 1V.1311061215-11
Sample Tag:	Units: mg/L	

Analyte		CAS #	Result	Qual	LOQ	LOD
Cyanide		57-12-5		U	0.0100	0.00500
U	Analyte was not detected. The concentration is below the reported LOD.					

Certificate of Analysis

Sample #: L13101868-05	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 6-1013-1	Prep Method: SM4500-CN-C,G-1999	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-CN-C,G-1999	Cal Date: 11/08/2013 09:20
Workgroup #: WG451865	Analyst: DCM	Run Date: 11/08/2013 15:30
Collect Date: 10/30/2013 15:35	Dilution: 1	File ID: 1V.1311081530-09
Sample Tag: DL02	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Amenable to Chlor.	57-12-5		U	0.0100	0.00500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-05	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 6-1013-1	Prep Method: SM4500-CN-I	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-CN-I	Cal Date: 11/06/2013 10:20
Workgroup #: WG451301	Analyst: DCM	Run Date: 11/06/2013 16:10
Collect Date: 10/30/2013 15:35	Dilution: 1	File ID: 1V.1311061610-10
Sample Tag: DL01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Cyanide, Weak/Dissociable	57-12-5		U	0.0100	0.00500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-05	PrePrep Method: N/A	Instrument: TIAMO1
Client ID: MPL 6-1013-1	Prep Method: 120.1	Prep Date: N/A
Matrix: Water	Analytical Method: 120.1	Cal Date:
Workgroup #: WG451012	Analyst: DIH	Run Date: 10/31/2013 17:01
Collect Date: 10/30/2013 15:35	Dilution: 1	File ID: TI.103113.1701CO
Sample Tag: 01	Units: umhos/cm	

Analyte	CAS #	Result	Qual	LOQ	LOD
Conductivity		326		50.0	10.0

Sample #: L13101868-05	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: MPL 6-1013-1	Prep Method: 350.1	Prep Date: N/A
Matrix: Water	Analytical Method: 350.1	Cal Date: 11/05/2013 10:23
Workgroup #: WG451431	Analyst: BAF	Run Date: 11/05/2013 10:45
Collect Date: 10/30/2013 15:35	Dilution: 1	File ID: SC131105002.031
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrogen, Ammonia	7664-41-7		U	0.100	0.0500
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-05	PrePrep Method: N/A	Instrument: SMARTCHEM
Client ID: MPL 6-1013-1	Prep Method: 353.2	Prep Date: N/A
Matrix: Water	Analytical Method: 353.2	Cal Date: 11/05/2013 10:23
Workgroup #: WG451544	Analyst: BAF	Run Date: 11/06/2013 09:30
Collect Date: 10/30/2013 15:35	Dilution: 4	File ID: SC13110811355501
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Nitrate-Nitrite (as N)		2.47		0.200	0.100

Sample #: L13101868-05	PrePrep Method: N/A	Instrument: UV-120-1V
Client ID: MPL 6-1013-1	Prep Method: SM4500-P-E-1999	Prep Date: N/A
Matrix: Water	Analytical Method: SM4500-P-E-1999	Cal Date: 10/30/2013 09:00
Workgroup #: WG450894	Analyst: DLP	Run Date: 10/31/2013 08:30
Collect Date: 10/30/2013 15:35	Dilution: 1	File ID: 1V.1310310830-17
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Orthophosphate	14265-44-2		U	0.0500	0.0250
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Sample #: L13101868-05	PrePrep Method: N/A	Instrument: OVEN
Client ID: MPL 6-1013-1	Prep Method: 160.1/SM2540C	Prep Date: N/A
Matrix: Water	Analytical Method: SM2540-C-1997	Cal Date:
Workgroup #: WG450990	Analyst: ADG	Run Date: 11/01/2013 07:28
Collect Date: 10/30/2013 15:35	Dilution: 1	File ID: EN.1311010728-23
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Dissolved Solids		196		20.0	10.0

Sample #: L13101868-05	PrePrep Method: N/A	Instrument: TOC-VWP
Client ID: MPL 6-1013-1	Prep Method: 415.1	Prep Date: N/A
Matrix: Water	Analytical Method: 415.1	Cal Date: 07/09/2013 14:51
Workgroup #: WG451144	Analyst: BAF	Run Date: 11/01/2013 20:10
Collect Date: 10/30/2013 15:35	Dilution: 1	File ID: TC11012013.022
Sample Tag: 01	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Organic Carbon	TOC	1.27		1.00	0.500

Sample #: L13101868-05	PrePrep Method: N/A	Instrument: OVEN
Client ID: MPL 6-1013-1	Prep Method: 160.2/SM2540D	Prep Date: N/A
Matrix: Water	Analytical Method: SM2540-D-1997	Cal Date:
Workgroup #: WG451099	Analyst: ADG	Run Date: 11/01/2013 14:55
Collect Date: 10/30/2013 15:35	Dilution: 1	File ID: EN.1311011455-11
Sample Tag:	Units: mg/L	

Analyte	CAS #	Result	Qual	LOQ	LOD
Total Suspended Solids			U	5.00	2.50
U	Analyte was not detected. The concentration is below the reported LOD.				

Certificate of Analysis

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
November 14, 2013

001 - BIO-CHEM TESTING WVDEP 220	002 - REIC Consultants, Inc. WVDEP 060
003 - Sturm Environmental	004 - MICROBAC PITTSBURGH
ADC - ANTHONY D. CANTER	ADG - APRIL D. GREENE
AJF - AMANDA J. FICKIESEN	AML - TONY M. LONG
AZH - AFTER HOURS	BAF - BRICE A. FENTON
BJO - BRIAN J. OGDEN	BLG - BRENDA L. GREENWALT
BRG - BRENDA R. GREGORY	CAA - CASSIE A. AUGENSTEIN
CAF - CHERYL A. FLOWERS	CEB - CHAD E. BARNES
CLC - CHRYS L. CRAWFORD	CLS - CARA L. STRICKLER
CLW - CHARISSA L. WINTERS	CPD - CHAD P. DAVIS
CRW - CHRISTINA R. WILSON	CSH - CHRIS S. HILL
CTB - CHRIS T. BUCINA	DAK - DEAN A. K
DCM - DAVID C. MERCKLE	DDE - DEBRA D. ELLIOTT
DEV - DAVID E. VANDENBERG	DIH - DEANNA I. HESSON
DLB - DAVID L. BUMGARNER	DLP - DOROTHY L. PAYNE
DLR - DIANNA L. RAUCH	DSM - DAVID S. MOSSOR
ECL - ERIC C. LAWSON	EDL - ERIN D. LONG
ENY - EMILY N. YOAK	EPT - ETHAN P. TIDD
ERP - ERIN R. PORTER	FJB - FRANCES J. BOLDEN
HJR - HOLLY J. REED	JBK - JEREMY B. KINNEY
JDH - JUSTIN D. HESSON	JKS - JANE K. SCHAAD
JLL - JOHN L. LENT	JWR - JOHN W. RICHARDS
JWS - JACK W. SHEAVES	JYH - JI Y. HU
KDW - KATHRYN D. WELCH	KEB - KATIE E. BARNES
KHR - KIM H. RHODES	KRA - KATHY R. ALBERTSON
KRB - KAELY R. BECKER	KSC - KELLY S. CUNNINGHAM
LKN - LINDA K. NEDEFF	LLS - LARRY L. STEPHENS
LSB - LESLIE S. BUCINA	MBK - MORGAN B. KNOWLTON
MDA - MIKE D. ALBERTSON	MDC - MIKE D. COCHRAN
MES - MARY E. SCHILLING	MLW - MATTHEW L. WARREN
MMB - MAREN M. BEERY	MRT - MICHELLE R. TAYLOR
MSW - MATT S. WILSON	PDM - PIERCE D. MORRIS
PIT - MICROBAC WARRENDAL	PSW - PEGGY S. WEBB
QX - QIN XU	RAH - ROY A. HALSTEAD
REK - BOB E. KYER	RLB - BOB BUCHANAN
RM - RAYMOND MALEKE	RNP - RICK N. PETTY
RS - ROSEMARY SCOTT	RWC - RODNEY W. CAMPBELL
SAV - SARAH A. VANDENBERG	SEP - SUZANNE J. PAUGH
SLM - STEPHANIE L. MOSSBURG	SLP - SHERI L. PFALZGRAF
TMB - TIFFANY M. BAILEY	TMM - TAMMY M. MORRIS
TPA - TYLER P. AMRINE	VC - VICKI COLLIER
WJB - WILL J. BEASLEY	WTD - WADE T. DELONG
XXX - UNAVAILABLE OR SUBCONTRACT	

November 14, 2013

Qualkey: DOD

Qualifier	Description
*	Surrogate or spike compound out of range
+	Correlation coefficient for the MSA is less than 0.995
<	Result is less than the associated numerical value.
>	Greater than
A	See the report narrative
B	The reported result is associated with a contaminated method blank.
B1	Target analyte detected in method blank at or above the method reporting limit
B3	Target analyte detected in calibration blank at or above the method reporting limit
B4	The BOD unseeded dilution water blank exceeded 0.2 mg/L
C	Confirmed by GC/MS
CG	Confluent growth
CT1	The cooler temperature at receipt exceeded regulatory guidelines for requested testing.
DL	Surrogate or spike compound was diluted out
E	Estimated concentration due to sample matrix interference
EDL	Elevated sample reporting limits, presence of non-target analytes
EMPC	Estimated Maximum Possible Concentration
F, S	Estimated result below quantitation limit; method of standard additions(MSA)
FL	Free Liquid
H1	Sample analysis performed past holding time.
I	Semiquantitative result (out of instrument calibration range)
J	Estimated concentration; sample matrix interference.
J	Estimated value ; the analyte concentration was greater than the highest standard
J	Estimated value ; the analyte concentration was less than the LOQ.
J	The reported result is an estimated value.
J,B	Analyte detected in both the method blank and sample above the MDL.
J,P	Estimate; columns don't agree to within 40%
J,S	Estimated concentration; analyzed by method of standard addition (MSA)
JB	The reported result is an estimated value. The reported result is also associated with a contaminated method blank.
JQ	The reported result is an estimated value and one or more quality control criteria failed. See narrative.
L	Sample reporting limits elevated due to matrix interference
L1	The associated blank spike (LCS) recovery was above the laboratory acceptance limits.
L2	The associated blank spike (LCS) recovery was below the laboratory acceptance limits.
M	Matrix effect; the concentration is an estimate due to matrix effect.
N	Nontarget analyte; the analyte is a tentatively identified compound (TIC) by GC/MS
NA	Not applicable
ND	Not detected at or above the reporting limit (RL/MDL).
ND, CT1	Analyte was not detected. The concentration is below the reported LOD. The cooler temperature at receipt exceeded reg
ND, H1	Not detected; Sample analysis performed past holding time.
ND, L	Not detected; sample reporting limit (RL) elevated due to interference
ND, S	Not detected; analyzed by method of standard addition (MSA)
NF	Not found by library search
NFL	No free liquid
NI	Non-ignitable
NR	Analyte is not required to be analyzed
NS	Not spiked
P	Concentrations >40% difference between the two GC columns
Q	One or more quality control criteria failed. See narrative.
QNS	Quantity of sample not sufficient to perform analysis
RA	Reanalysis confirms reported results
RE	Reanalysis confirms sample matrix interference
S	Analyzed by method of standard addition (MSA)
SMI	Sample matrix interference on surrogate
SP	Reported results are for spike compounds only
TIC	Library Search Compound
TNTC	Too numerous to count
U	Analyte was not detected. The concentration is below the reported LOD.
UJ	Undetected; the MDL and RL are estimated due to quality control discrepancies.
UQ	Undetected; the analyte was analyzed for, but not detected.
W	Post-digestion spike for furnace AA out of control limits
X	Exceeds regulatory limit
X, S	Exceeds regulatory limit; method of standard additions (MSA)
Z	Cannot be resolved from isomer - see below



158 Starlite Drive
Marietta, OH 45750

Phone: 740-373-4071
Fax: 740-373-4835



Microbac

CHAIN-OF-CUSTODY RECORD

[illegible]

*Water (W), Soil (S), Solid Waste (SD), Unknown (X)

Internal Chain of Custody Report

Login: L13101868

Account: 3005

Project: 3005.011

Samples: 5

Due Date: 11-NOV-2013

Samplenum **Container ID** **Products**
L13101868-01 270629 300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	SEM	06-NOV-2013 09:39	JBK	CLS	

Samplenum **Container ID** **Products**
L13101868-01 270630 ALK-B ALK-C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	WET	01-NOV-2013 09:04	BAF	RS	
3	STORE	WET	A1	04-NOV-2013 14:41	CLS	DCM	

Samplenum **Container ID** **Products**
L13101868-01 270631 PO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	STORE	WET	A1	04-NOV-2013 14:43	CLS	DCM	

Samplenum **Container ID** **Products**
L13101868-01 270632 TSS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	WET	01-NOV-2013 08:26	ADG	RS	
3	ANALYZ	WET	A1	05-NOV-2013 14:12	RS	ADG	

Samplenum **Container ID** **Products**
L13101868-01 270633 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		<2
2	ANALYZ	W1	WET	01-NOV-2013 14:09	BAF	RS	
3	STORE	WET	A1	07-NOV-2013 13:47	RS	BAF	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L13101868

Account: 3005

Project: 3005.011

Samples: 5

Due Date: 11-NOV-2013

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13101868-01	270634	K MG MN-MS NA NI-MS PB-MS SB-MS SE-MS SN TL-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	PREP	W1	DIG	01-NOV-2013 08:40	REK	CLS	
3	ANALYZ*	DIG	METALS	04-NOV-2013 09:25	PDM	REK	
4	STORE	DIG	A1	04-NOV-2013 13:49	RS	ERP	

**Sample extract/digestate/leachate*

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		

**Sample extract/digestate/leachate*

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13101868-01	270635	CN-WD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	ANALYZ	WET	A1	11-NOV-2013 16:47	CLS	PSW	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13101868-02	270636	300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	SEM	06-NOV-2013 09:39	JBK	CLS	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13101868-02	270637	ALK-B ALK-C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	WET	01-NOV-2013 09:04	BAF	RS	
3	STORE	WET	A1	04-NOV-2013 14:41	CLS	DCM	

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L13101868

Account: 3005

Project: 3005.011

Samples: 5

Due Date: 11-NOV-2013

Samplenum **Container ID** **Products**
L13101868-02 270638 PO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	STORE	WET	A1	04-NOV-2013 14:43	CLS	DCM	

Samplenum **Container ID** **Products**
L13101868-02 270639 TSS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	ANALYZ	WET	A1	05-NOV-2013 14:12	RS	ADG	

Samplenum **Container ID** **Products**
L13101868-02 270640 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		<2
2	ANALYZ	W1	WET	01-NOV-2013 14:09	BAF	RS	
3	STORE	WET	A1	07-NOV-2013 13:43	RS	BAF	

Samplenum **Container ID** **Products**
L13101868-02 270641 AG-MS AS-MS BA-MS BE-AX CA CD-MS CO-MS CR-MS C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	PREP	W1	DIG	01-NOV-2013 08:40	REK	CLS	
3	ANALYZ*	DIG	METALS	04-NOV-2013 09:25	PDM	REK	
4	STORE	DIG	A1	04-NOV-2013 13:49	RS	ERP	

***Sample extract/digestate/leachate**

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		

***Sample extract/digestate/leachate**

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L13101868

Account: 3005

Project: 3005.011

Samples: 5

Due Date: 11-NOV-2013

Samplenum **Container ID** **Products**
L13101868-02 270642 CN-WD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	ANALYZ	WET	A1	11-NOV-2013 16:47	CLS	PSW	

Samplenum **Container ID** **Products**
L13101868-03 270643 300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	SEM	06-NOV-2013 09:39	JBK	CLS	

Samplenum **Container ID** **Products**
L13101868-03 270644 ALK-B ALK-C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	WET	01-NOV-2013 09:04	BAF	RS	
3	STORE	WET	A1	04-NOV-2013 14:41	CLS	DCM	

Samplenum **Container ID** **Products**
L13101868-03 270645 PO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	STORE	WET	A1	04-NOV-2013 14:43	CLS	DCM	

Samplenum **Container ID** **Products**
L13101868-03 270646 TSS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	WET	01-NOV-2013 08:26	ADG	RS	
3	ANALYZ	WET	A1	05-NOV-2013 14:12	RS	ADG	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L13101868

Account: 3005

Project: 3005.011

Samples: 5

Due Date: 11-NOV-2013

Samplenum Container ID Products
L13101868-03 270647 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		<2
2	ANALYZ	W1	WET	01-NOV-2013 14:09	BAF	RS	
3	STORE	WET	A1	07-NOV-2013 13:44	RS	BAF	

Samplenum Container ID Products
L13101868-03 270648 AG-MS AS-MS BA-MS BE-AX CA CD-MS CO-MS CR-MS (

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	PREP	W1	DIG	01-NOV-2013 08:40	REK	CLS	
3	ANALYZ*	DIG	METALS	04-NOV-2013 09:25	PDM	REK	
4	STORE	DIG	A1	04-NOV-2013 13:49	RS	ERP	

**Sample extract/digestate/leachate*

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		

**Sample extract/digestate/leachate*

Samplenum Container ID Products
L13101868-03 270649 CN-WD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	ANALYZ	WET	A1	11-NOV-2013 16:47	CLS	PSW	

Samplenum Container ID Products
L13101868-04 270650 300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	SEM	06-NOV-2013 09:38	JBK	CLS	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L13101868

Account: 3005

Project: 3005.011

Samples: 5

Due Date: 11-NOV-2013

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13101868-04	270651	ALK-B ALK-C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	WET	01-NOV-2013 09:04	BAF	RS	
3	STORE	WET	A1	04-NOV-2013 14:41	CLS	DCM	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13101868-04	270652	PO4

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	STORE	WET	A1	04-NOV-2013 14:43	CLS	DCM	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13101868-04	270653	TSS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	WET	01-NOV-2013 08:26	ADG	RS	
3	ANALYZ	WET	A1	05-NOV-2013 14:12	RS	ADG	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13101868-04	270654	TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		<2
2	ANALYZ	W1	WET	01-NOV-2013 14:09	BAF	RS	
3	STORE	WET	A1	07-NOV-2013 13:43	RS	BAF	

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L13101868

Account: 3005

Project: 3005.011

Samples: 5

Due Date: 11-NOV-2013

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13101868-04	270655	AG-MS AS-MS BA-MS BE-AX CA CD-MS CO-MS CR-MS C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	PREP	W1	DIG	01-NOV-2013 08:40	REK	CLS	
3	ANALYZ*	DIG	METALS	04-NOV-2013 09:25	PDM	REK	
4	STORE	DIG	A1	04-NOV-2013 13:49	RS	ERP	

**Sample extract/digestate/leachate*

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		

**Sample extract/digestate/leachate*

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13101868-04	270656	CN-WD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	ANALYZ	WET	A1	11-NOV-2013 16:47	CLS	PSW	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13101868-05	270657	300

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	SEM	06-NOV-2013 09:39	JBK	CLS	

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13101868-05	270658	ALK-B ALK-C

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	WET	01-NOV-2013 09:04	BAF	RS	
3	STORE	WET	A1	04-NOV-2013 14:41	CLS	DCM	

A1 - Sample Archive (COLD)
 A2 - Sample Archive (AMBIENT)
 F1 - Volatiles Freezer in Login
 V1 - Volatiles Refrigerator in Login
 W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L13101868

Account: 3005

Project: 3005.011

Samples: 5

Due Date: 11-NOV-2013

Samplenum **Container ID** **Products**
L13101868-05 270659 P04

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	STORE	WET	A1	04-NOV-2013 14:43	CLS	DCM	

Samplenum **Container ID** **Products**
L13101868-05 270660 TSS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	ANALYZ	W1	WET	01-NOV-2013 08:26	ADG	RS	
3	ANALYZ	WET	A1	05-NOV-2013 14:12	RS	ADG	

Samplenum **Container ID** **Products**
L13101868-05 270661 TOC

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		<2
2	ANALYZ	W1	WET	01-NOV-2013 14:09	BAF	RS	
3	STORE	WET	A1	07-NOV-2013 13:47	RS	BAF	

Samplenum **Container ID** **Products**
L13101868-05 270662 AG-MS HG K MG MN-MS NA NI-MS PB-MS SB-MS SE-MS

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		
2	PREP	W1	DIG	01-NOV-2013 08:40	REK	CLS	
3	ANALYZ*	DIG	METALS	04-NOV-2013 09:25	PDM	REK	
4	STORE	DIG	A1	04-NOV-2013 13:49	RS	ERP	

***Sample extract/digestate/leachate**

Bottle: 2

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	W1	31-OCT-2013 12:32	CLS		

***Sample extract/digestate/leachate**

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login



Internal Chain of Custody Report

Login: L13101868**Account:** 3005**Project:** 3005.011**Samples:** 5**Due Date:** 11-NOV-2013

<u>Samplenum</u>	<u>Container ID</u>	<u>Products</u>
L13101868-05	270663	CN-WD

Bottle: 1

Seq.	Purpose	From	To	Date/Time	Accept	Relinquish	pH
1	LOGIN	COOLER	WET	31-OCT-2013 12:32	CLS		
2	ANALYZ	WET	A1	11-NOV-2013 16:47	CLS	PSW	

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

